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Agricultural Memorandum No. 322

Recent changes in Livestock Population

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Agricultural Meteorology Vol 4. (1967) pages 321-338, contained details of the pattern of British Grassland Farming. This showed the close correlation with average effective transpiration worked out on a county basis, the counties furthermore being grouped into 9 grades according to the meteorological parameter which should indicate the suitability of the climate for grass. The following terms were used:

Total Stock ratio	Stock per 100 acres of crops and grass, seven sheep counting as one cow and rough grazing counting as two-thirds of farmland. (This is not a stock carrying ratio).
Cattle ratio	Total cattle per 100 acres of crops and grass.
Milk Cow ratio	Total milk herd per 100 acres crops and grass.

The conclusions of the 1967 article were now checked with respect to the 1967 census figures, and Appendix 1-3 show the results.

Both 1950-67 change and the recent 1960-67 change of populations show a very high correlation with the climate factor.

This confirms that the farmers' choice of husbandry is strictly in accordance with the dictates of the weather.

Any comments or suggestions on this paper should be referred to the Author.

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Appendix 1 Changes in Total Stock Ratio 1950-1960-1967

	Effective Transpiration		Stock Ratio			Change	
	Range	Mean	1950	1960	1967	1960-1967	1950-1967
Grade 1	16.2 15.95	16.15	47	54	60.5	+6.5	+13.5
Grade 2	15.9 15.6	15.75	42	52	58	+6	+16
Grade 3	15.55 15.25	15.45	40	49	54	+5	+14
Grade 4	15.2 14.85	15.0	36	42	45	+3	+9
Grade 5	14.7 14.4	14.55	34	40	40.5	+0.5	+6.5
Grade 6	14.35 14.05	14.25	30	38	33.5	-4.5	+3.5
Grade 7	13.95 13.75	13.85	26	29	26	-3.0	0.0
Grade 8	13.7 13.4	13.5	18	19	15.5	-3.5	-2.5
Grade 9	13.15 13.05	13.05	17	18	14.5	-3.5	-2.5
					Correlation with Effective Transpiration	0.88	0.95

Appendix 2 Change in Cattle Ratio 1950-1960-1967

	Effective Transpiration		Cattle Ratio			Change	
	Range	Mean	1950	1960	1967	1960-67	1950-1967
Grade 1	16.3 16.0	16.2	45	49	55	+6	+10
Grade 2	15.95 15.65	15.8	41	47	52	+5	+11
Grade 3	15.55 15.35	15.45	38	42	45	+3	+ 7
Grade 4	15.2 14.95	15.05	36	40	42	+2	+ 6
Grade 5	14.9 14.65	14.8	33	37	38	+1	+ 5
Grade 6	14.55 14.2	14.4	31	33	32	-1	+ 1
Grade 7	14.15 13.8	13.9	23	27	21	-6	- 2
Grade 8	13.75 13.4	13.6	19	19	16	-3	- 3
Grade 9	13.15 13.05	13.05	16	16	13	-3	- 3
Correlation with Effective Transpiration			0.92				0.97

Appendix 3 Change in Milk Cow Ratio 1960-1967

	Mean Effective Transpiration	1960	1967	Change	Percentage Grassland 1967
Grade 1	16.2	15.5	17.0	+1.5	82
Grade 2	15.8	12.5	13.8	+1.3	80
Grade 3	15.45	14.4	15.4	+1.0	69
Grade 4	15.05	10.0	10.5	+0.5	62
Grade 5	14.8	7.6	7.7	+0.1	59
Grade 6	14.4	7.8	7.8	0.0	51
Grade 7	13.9	4.3	4.1	-0.2	33
Grade 8	13.6	3.1	2.8	-0.3	22
Grade 9	13.05	3.5	2.8	-0.7	20
	Correlation with Effective Transpiration			0.97	0.99

Milk Marketing Board Areas

	1960	1967	Change	Percentage Grassland
A (Good)	13.1	14.2	+1.1	75
B (Moderate)	7.7	7.8	+0.1	55
C (Poor)	3.8	3.5	-0.3	11